

What is claimed is:

1 (currently amended): A method of providing electrical pulses to one or both vagus nerve(s) and/or its branches of a patient to provide therapy for at least one of atrial fibrillation, congestive heart failure, or inappropriate sinus tachycardia, and refractory hypertension, comprising the steps of:

- a) ~~providing a stimulation means, wherein said stimulation means comprising implantable and external components;~~
- b) ~~providing programmer means, wherein said programmer means comprising means for networking with remote computers for data exchange; and~~
- e) ~~programming said stimulation means with said programming means;~~
~~whereby, said therapy is provided by said electrical pulses.~~

providing a pulse generator system, wherein said pulse generator system is one of, an implanted stimulus-receiver used with an external stimulator; an implanted stimulus-receiver comprising a high value capacitor for storing charge used with an external stimulator; a programmer-less implantable pulse generator (IPG) which is operable with a magnet; a programmable implantable pulse generator; a combination implantable device comprising both a stimulus-receiver and a programmable IPG; or an IPG comprising a rechargeable battery;

providing at least one predetermined program stored in memory to control the output of said pulse generator system, wherein said predetermined program define a combination of programmable parameters;

providing an implanted lead(s) in electrical contact with said implanted pulse generator, wherein said implanted lead(s) comprising at least one electrode adapted to be in contact with said vagus nerve(s);

providing a programmer for activating and/or programming said pulse generator system;

selectively choosing and/or programming said at least one predetermined program to emit electrical pulses to said vagus nerve(s),

whereby therapy is provided for one of said atrial fibrillation, congestive heart failure, or inappropriate sinus tachycardia.

2 (canceled)

3 (canceled)

4 (canceled)

5 (currently amended): The method of claim ~~[[4]]~~ 1, wherein said external stimulator further comprises telemetry ~~means~~ unit for networking.

6 (original): The method of claim 1, wherein said programmer further comprises a telemetry unit for networking.

7 (currently amended): The method of claim 6, wherein said programmer means can be remotely operated over a wide area network such as the internet.

8 (canceled)

9 (currently amended): The method of claim 1, wherein said pulse generator system ~~implantable components~~ comprises an implantable pulse generator (IPG) with a recharging coil for recharging the implantable pulse generator using an external power source.

10 (currently amended): A method of providing electrical pulses to one or both vagus nerve(s) and/or its branches ~~of in a patient[,]~~ ~~with a stimulation means comprising implanted and external components to provide therapy for at least one of atrial fibrillation, congestive heart failure, or inappropriate sinus tachycardia, and refractory hypertension, comprising the steps of:~~

- ~~a) providing implantable pulse generator means;~~
- ~~b) providing an external stimulator means and programming means;~~
- ~~c) providing a lead in connection with said implantable pulse generator means, and adapted to be in contact with the said vagus nerve(s); and~~
- ~~d) selectively operating said implantable pulse generator means or external stimulator means~~

~~whereby, said therapy is provided with pulsed electrical stimulation.~~

providing a programmable implantable pulse generator to provide said electrical pulses comprising microprocessor, electrical circuitry, memory, and power source;

providing an implantable lead in electrical contact with said implantable pulse generator, and at least one electrode adapted to be in contact with said vagus nerve(s);

providing an external programmer comprising circuitry for programming said implantable pulse generator using inductively coupled means for bi-direction data exchange, and further comprising telemetry means for remote communication using a wide area network;

programming said implantable pulse generator with said external programmer to deliver predetermined electrical pulses for providing said therapy;
and

remotely communicating with said external programmer for data exchange over a wide area network.

11 (canceled)

12 (canceled)

13 (currently amended): A method of providing therapy for congestive heart failure (CHF) using electrical pulses to a vagus nerve, comprising the steps of:

a) ~~providing implantable stimulation means wherein, said stimulation means comprises implanted or external power source, to provide electrical pulses to said vagus nerve;~~

b) ~~providing programmer means external to the body for programming said stimulation means;~~

~~whereby, said electrical pulses supplied to said vagus nerve provide therapy for congestive heart failure.~~

providing a pulse generator system, wherein said pulse generator system is one of, an implanted stimulus-receiver used with an external stimulator; an implanted stimulus-receiver comprising a high value capacitor for storing charge used with an external stimulator; a programmer-less implantable pulse generator (IPG) which is operable with a magnet; a programmable implantable pulse generator; a combination implantable device comprising both a stimulus-receiver and a programmable IPG; or an IPG comprising a rechargeable battery;

providing at least two predetermined programs stored in memory of said pulse generator system to control the output of said pulse generator system, wherein said predetermined program define a combination of programmable parameters;

providing an implanted lead(s) in electrical contact with said implanted pulse generator, wherein said implanted lead(s) comprising at least one electrode adapted to be in contact with said vagus nerve(s);

providing a programmer for activating and/or programming said pulse generator system, wherein said programmer further comprises telemetry circuitry for remote communication using a wide area network;

selectively choosing and/or programming said at least one predetermined program to emit electrical pulses to said vagus nerve(s);

remotely communicating with said programmer for data exchange over a wide area network.

14 (canceled)

15 (canceled)

16 (canceled)

17 (currently amended): The method of claim 13, wherein said pulse generator system ~~implantable components~~ comprises an implantable pulse

generator (IPG) with a recharging coil for recharging the implantable pulse generator using an external power source.

18 (currently amended): A method to increase the cardiac parasympathetic tone in a patient using pulsed electrical stimulation to a vagus nerve(s), comprising the steps of:

- ~~_____ a) _____ providing implantable stimulation means wherein, said stimulation means comprises implanted or external power source, to provide electrical pulses to said vagus nerve;~~
- ~~_____ b) _____ providing programmer means external to the body for programming said stimulation means;~~
- ~~_____ whereby, said pulsed electrical stimulation to said vagus nerve leads to increased cardiac parasympathetic tone.~~

providing a pulse generator system, wherein said pulse generator system is one of, an implanted stimulus-receiver used with an external stimulator; an implanted stimulus-receiver comprising a high value capacitor for storing charge used with an external stimulator; a programmer-less implantable pulse generator (IPG) which is operable with a magnet; a programmable implantable pulse generator; a combination implantable device comprising both a stimulus-receiver and a programmable IPG; or an IPG comprising a rechargeable battery;

providing at least one predetermined program to control the output of said pulse generator system, wherein said predetermined program define a combination of programmable parameters;

providing an implanted lead(s) in electrical contact with said implanted pulse generator, wherein said implanted lead(s) comprising at least one electrode adapted to be in contact with said vagus nerve(s);

providing a programmer for activating and/or programming said pulse generator system;

selectively choosing and/or programming said at least one predetermined program to emit electrical pulses to said vagus nerve(s).

whereby cardiac parasympathetic tone is increased with electrical stimulation to a vagus nerve.

19 (canceled)

20 (currently amended): The method of claim 18, wherein said programmer is means are remotely operated via the internet.

21 (currently amended): The method of claim 18, wherein said stimulat[ion]or means can be remotely controlled over a wireless wide area network.

22 (currently amended): The method of claim 18, wherein said pulse generator system ~~implantable components~~ comprises an implantable pulse generator (IPG) with a recharging coil for recharging the implantable pulse generator using an external power source.

23 (canceled)

24 (canceled)

25 (canceled)

26 (canceled)

27 (canceled)

28 (canceled)

29 (canceled)

30 (canceled)

31 (new): The method of claim 1, wherein said pulse generator system further comprises at least two predetermined/pre-packaged programs stored in memory of said pulse generator system.

32 (new): The method of claim 1, wherein said at least one predetermined program can be modified.

33 (new): The method of claim 1, wherein said pulse generator system can further be remotely interrogated and/or programmed.

34 (new): The method of claim 1, wherein said pulse generator system further provides rate control for atrial fibrillation.

35 (new): The method of claim 1, wherein said pulse generator system further provides rate control for inappropriate sinus tachycardia.

36 (new): The method of claim 10, wherein said pulse generator system further provides rate control for atrial fibrillation.

37 (new): The method of claim 10, wherein said pulse generator system further provides rate control for inappropriate sinus tachycardia.

38 (new): The method of claim 10, wherein said pulse generator system can further be remotely interrogated and/or programmed.

39 (new): The method of claim 10, wherein said at least two predetermined programs can be modified.

40 (new): The method of claim 13, wherein said pulse generator system can further be remotely interrogated and/or programmed.

41 (new): The method of claim 18, wherein said pulse generator system further comprises at least two predetermined/pre-packaged programs stored in memory of said pulse generator system.

42 (new): The method of claim 18, wherein said at least one predetermined program can be modified.

43 (new): The method of claim 18, wherein said pulse generator system can further be remotely interrogated and/or programmed.

44 (new): The method of claim 18, wherein said pulse generator system further provides rate control for atrial fibrillation.

45 (new): The method of claim 18, wherein said pulse generator system further provides rate control for inappropriate sinus tachycardia.

46 (new): A method of providing electrical pulses to one or both vagus nerve(s) and/or its branches of a patient to provide therapy for at least one of atrial fibrillation, or inappropriate sinus tachycardia, comprising the steps of:

- providing a pulse generator system, wherein said pulse generator system is one of, an implanted stimulus-receiver comprising a high value capacitor for storing charge used with an external stimulator; a programmer-less implantable pulse generator (IPG) which is operable with a magnet; a programmable implantable pulse generator; a combination implantable device comprising both a stimulus-receiver and a programmable IPG; or an IPG comprising a rechargeable battery;
- providing at least one predetermined program to control the output of said pulse generator system, wherein said predetermined program define a combination of programmable parameters;
- providing an implanted lead(s) in electrical contact with said implanted pulse generator, wherein said implanted lead(s) comprising at least one electrode adapted to be in contact with said vagus nerve(s);

providing a programmer for activating and/or programming said pulse generator system;

whereby therapy is provided for one of said atrial fibrillation, or inappropriate sinus tachycardia.

47 (new): The method of claim 46, wherein said at least one predetermined program can be modified.

48 (new): The method of claim 46, wherein said pulse generator system can further be remotely interrogated and/or programmed.

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